



# Total Maximum Daily Load Information Sheet

## Bowling Green Lake (Old)

Water Body ID: 7003

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### Water Body Segment at a Glance:

**County:** Pike  
**Nearby City:** Bowling Green  
**Size of Lake:** 29 acres<sup>1</sup>  
**Pollutants:** Nitrogen and phosphorus  
**Source:** Nonpoint sources



Statewide Map Showing Location of Watershed

### Scheduled for TMDL development:

TMDL development schedules are subject to change.

The most current schedule for TMDL development is available on the department's website at [dnr.mo.gov/env/wpp/tmdl/wpc-tmdl-progress.htm](http://dnr.mo.gov/env/wpp/tmdl/wpc-tmdl-progress.htm).

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### Description of the Problem

A water body is considered impaired when it fails to meet applicable water quality standards. Water quality standards consist of designated uses, water quality criteria, an antidegradation policy and implementation procedures. Bowling Green Lake (Old) is impaired due to exceedances of the water quality criteria for the protection of aquatic life.

### Designated uses of Bowling Green Lake\*

- Warm Water Habitat (WWH)
- Whole Body Contact Recreation Category B (WBC-B)
- Secondary Contact Recreation (SCR)
- Human Health Protection (HHP)
- Irrigation (IRR)
- Livestock and Wildlife Protection (LWP)
- Drinking Water Supply (DWS)

\*In addition to these specific uses, all waters of the state are protected by the general water quality criteria that are specified in the state's Water Quality Standards at 10 CSR 20-7.031(4).

### Designated use that are impaired

- Warm Water Habitat (WWH)

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<sup>1</sup> This lake is erroneously listed as being 7 acres in size in the state water quality standards.

### Criteria that apply

- Site-specific nutrient criteria for Bowling Green Lake (old) are found in Table M of Missouri's Water Quality Standards at 10 CSR 20-7.031. Table M states that total phosphorus concentrations should not exceed 21 micrograms per liter ( $\mu\text{g/L}$ ), total nitrogen concentrations should not exceed 506  $\mu\text{g/L}$ , and total chlorophyll concentrations should not exceed 5  $\mu\text{g/L}$ .

### Assessment and water quality data

Bowling Green Lake is located northeast of the municipality of Bowling Green and impounds an unnamed tributary of Noix Creek in Pike County. The department judges water bodies with site-specific nutrient criteria to be impaired if the lower 60 percent confidence limit of the available nutrient data exceeds any of the criteria values. Nutrient data for Bowling Green Lake was collected in 2003 to 2010. The lower 60 percent confidence limit for available nitrogen and phosphorus data was found to be exceeding the criteria for these pollutants. For this reason the department judged Bowling Green Lake to be impaired for total nitrogen and total phosphorus. Recent assessment data also shows that the lower 60 percent confidence limit of the available chlorophyll data also exceeds the site-specific criterion for this parameter as well.

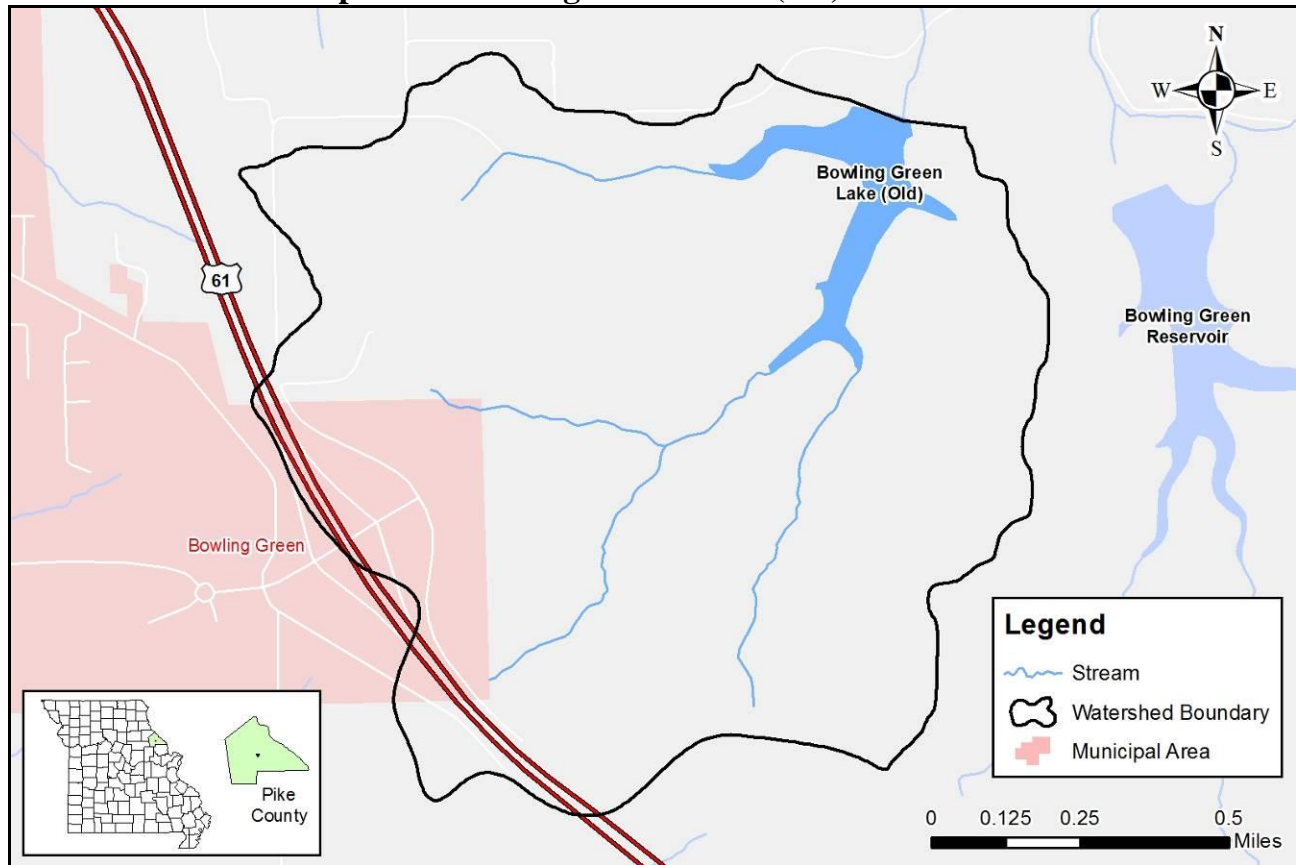
### Nutrient Assessment Data

Log LCL(60) =	$((4.288)-((0.253)*(1.149)/6.16)) =$	4.214	<b>TP LCL(60) =</b>	<b>68</b>
Log LCL(60) =	$((6.926)-((0.253)*(0.574)/6.16)) =$	6.902	<b>TN LCL(60) =</b>	<b>994</b>
Log LCL(60) =	$((1.703)-((0.253)*(1.695)/5.57)) =$	1.626	<b>TChl LCL(60) =</b>	<b>5.08</b>

### TMDL for Bowling Green Lake (Old)

The Bowling Green Lake (Old) TMDL will calculate the maximum amount of each listed pollutant that the stream can receive and still meet water quality standards. The TMDL will also identify all potential or suspected pollutant sources in the watershed and distribute the allowable pollutant loads among those various sources. When developed, the Bowling Green Lake (Old) TMDL will use the most current and available data. For this reason, the final TMDL may present information that differs from that contained in this information sheet.

## Map of the Bowling Green Lake (old) Watershed



### For more information call or write:

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